

C3  
cont.

mouthpiece assembly 512 further includes an acoustic chamber 552 having holes 554 and 556. Upon inhalation, air within the central chamber 532 passes through the holes 554 and 556 to produce an acoustic tone. This tone may be detected as described in greater detail hereinafter and used to determine both when the patient is inhaling and the patient's inspiratory flow rate. Such a signal may then be used to actuate the oscillating assembly which vibrates the thin shell member 536. Such a signal may be employed to control the time at which the shell member 536 is vibrated, e.g., such as only during inhalation. Alternatively, such a signal may also be employed to vibrate the thin shell member 536 at a frequency corresponding to the inspiratory flow rate. --

---

IN THE CLAIMS:

Claims 40-43 are pending as follows:

---

C4

1                    40.    (Amended) A method of aerosolizing a liquid, comprising the  
2    steps of:  
3                    electroforming an aperture plate made of palladium or a palladium alloy,  
4    the aperture plate having a front surface and a rear surface, the palladium or palladium  
5    alloy aperture plate being electroformed to form a plurality of tapered apertures extending  
6    from the rear surface to the front surface, the plurality of apertures being tapered to  
7    narrow from the rear surface to the front surface;  
8                    providing a fluid at the rear surface of the aperture plate; and  
9                    vibrating the aperture plate to eject the fluid through the plurality of  
10   tapered apertures.

---

1                    41.    (As filed) The method of claim 40, wherein:  
2                    the electroforming step is carried out with the aperture plate being  
3    palladium cobalt.

1                   42.   (As filed) The method of claim 40, wherein:  
2                   the electroforming step is carried out with the aperture plate being  
3   palladium nickel.

1                   43.   (As filed) The method of claim 40, wherein:  
2                   the electroforming step is carried out with the aperture plate being  
3   about 80% palladium and about 20% nickel.

Please add new claims 44-56 as follows:

---

1                   44.   (New) An apparatus for delivering aerosolized droplets of fluid to  
2   the respiratory system of a user, comprising:  
3                   a vibratory apertured element having a liquid receiving face; an aerosol  
4   emission face, and a plurality of tapered apertures therethrough, the apertures tapering  
5   from wide to narrow in the direction from the liquid receiving face to the aerosol  
6   emission face;  
7                   wherein the vibratory apertured element comprises an element comprised  
8   of a palladium-nickel alloy; and  
9                   wherein the apertures are configured to emit liquid droplets upon vibration  
10   of the vibratory apertured element.

1                   45.   (New) The apparatus of claim 44, wherein the palladium-nickel  
2   alloy is comprised of about 80 percent of palladium and about 20 percent of nickel.

1                   46.   (New) The apparatus of claim 45, wherein the palladium-nickel  
2   alloy is substantially comprised of about 80 percent of palladium and about 20 percent of  
3   nickel.

1                   47.   (New) The apparatus of claim 46, wherein the alloy consists  
2   essentially of about 80 percent of palladium and about 20 percent of nickel.

1                   48.   (New) The apparatus of claim 44, wherein the vibratory apertured  
2 element consists essentially of a unitary solid alloy element consisting of about 80  
3 percent of palladium and about 20 percent of nickel.

1                   49.   (New) The apparatus of claim 48, wherein the unitary solid alloy  
2 element consists essentially of about 80 percent of palladium and about 20 percent of  
3 nickel.

1                   50.   (New) An apparatus for delivering aerosolized droplets of fluid to  
2 the respiratory system of a user, comprising:  
3                   a vibratory apertured element having a liquid receiving face; an aerosol  
4 emission face, and a plurality of tapered apertures therethrough, the apertures tapering  
5 from wide to narrow in the direction from the liquid receiving face to the aerosol  
6 emission face;  
7                   wherein the vibratory apertured element comprises an element comprised  
8 of a palladium-nickel alloy; and  
9                   wherein the apertures have a diameter of between about 1 micron and  
10 about 6 microns at the aerosol emission face.

1                   51.   (New) The apparatus of claim 50, wherein the apertures have a  
2 diameter of about 1 micron to about 5 microns at the aerosol emission face

1                   52.   (New) The apparatus of claim 50, wherein the palladium-nickel  
2 alloy is comprised of about 80 percent of palladium and about 20 percent of nickel.

1                   53.   (New) The apparatus of claim 52, wherein the palladium-nickel  
2 alloy is substantially comprised of about 80 percent of palladium and about 20 percent of  
3 nickel.

1                   54.   (New) The apparatus of claim 53, wherein the alloy consists  
2 essentially of about 80 percent of palladium and about 20 percent of nickel.

C 5  
cont.

1 55. (New) The apparatus of claim 50, wherein the vibratory apertured  
2 element consists essentially of a unitary solid alloy element consisting of about 80  
3 percent of palladium and about 20 percent of nickel.

cont. 1 56. (New) The apparatus of claim 55, wherein the unitary solid alloy  
2 element consists essentially of about 80 percent of palladium and about 20 percent of  
3 nickel

---

IN THE DRAWINGS:

Applicants explicitly incorporate the addition of Figs. 23 and 24. These figures are identical to Figs. 1 and 2 respectively (but for being renumbered), of U.S. Patent No. 5,586,550, which patent was incorporated by reference in its entirety into the present application (e.g. page 3 lines 6-8). Reference numbers within Figs. 23 and 24 correspond to the reference numbers in Figs. 1 and 2 of the '550 patent, but with the change of being preceded by the numeral "5" to avoid any confusion with already assigned reference numbers in the present application.

REMARKS

Claims 40-43 were rejected as being obvious over U.S. Patent No. 5,586,550 to Ivri et al. ("Ivri"), U.S. Patent No. 5,529,055 to Abys et al. ("Abys") and U.S. Patent No. 5,976,344 to Marks et al. ("Marks").

The present amendment to the specification copies the text of U.S. Patent No. 5,586,550, which was incorporated in its entirety into the present application by reference. See, e.g., page 3, lines 6-8. No new matter is being added.

Claims 44-56 are newly submitted.

Claims 40-43 in view of Abys

Independent claim 40 is allowable over Ivri, Gueret, and Abys since these do not disclose or suggest "electroforming an aperture plate made of palladium or a